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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,468	09/11/2003	Masahiko Shakuto	242299US2	6827
22850	7590	12/29/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			LEE, SUSAN SHUK YIN	
		ART UNIT	PAPER NUMBER	
			2852	

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/659,468	SHAKUTO ET AL.	
	Examiner Susan S. Lee	Art Unit 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 11 October 2005.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-17,53,56,59,62-89 and 116-140 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 116-126,128-137,139 and 140 is/are allowed.
- 6) Claim(s) 1-4,6-8,12,53,56,59,62,63,69,70,73,74,86-89,127 and 138 is/are rejected.
- 7) Claim(s) 5,9-11,13-17,64-68,71,72 and 75-85 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input checked="" type="checkbox"/> Other: <u>See Continuation Sheet</u> .

Continuation of Attachment(s) 6). Other: consideration of papers filed 8/8/05.

## **DETAILED ACTION**

Upon reconsideration of the claims, the allowability of newly added claims 127 and 138 incorporating allowable subject matter is hereby withdrawn in view of the reference to Montfort et al. (5,842,102).

### ***Claim Objections***

Claim 59 is objected to because of the following informalities:

As to claim 59, line 5, "image carries" should be - - image carrier - - .

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1- 4, 6-8, 53, and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by Montfort et al. (5,842,102).

Montfort et al. discloses a cleaning blade 91 with a blade attached to the tip of waveguide 84 (instant invention's vibratable member). The waveguide 84 is attached to the piezoelectric transducer 102 (instant invention's vibrating unit). As shown in Fig. 6, the end of the blade that contacts an image carrier 10 does not curl toward the image carrier 10. The angle between the blade and the image carrier makes an acute angle with a tangent to the surface of the image carrier 10 in a direction of rotation of the

image carrier 10 (note Fig. 6). The acute angel is shown to be less than 90 degrees.

Note column 4, lines 56-65.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Montfort et al. in view of Muramatsu (Japan, 7-337042).

Montfort et al. differs from the instant invention by not disclosing the piezoelectric element is a laminated type piezoelectric element that displaces the vibratable member in a face direction as d-31 direction.

Muramatsu discloses piezoelectric elements 121, 122 are with piezoelectric effect in the direction of d – 31 for excitation. Note abstract.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Montfort et al. with that of Muramatsu so

that protection of the laminate can be obtained due to tensile stress at the time of oscillation.

Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Montfort et al. in view of Matsuguma (2003/0063928).

Montfort et al. differs from the instant invention by not disclosing a plurality of process cartridges.

Matsuguma discloses a color image forming apparatus with a plurality of process cartridges 7y, 7m, 7c, and 7k. Each process cartridge has a photosensitive drum 1, primary charger 3, developing means 5 and a cleaning means 6. The cleaning means 6 is in the form of a blade (note Fig. 1). Each process cartridge has a corresponding transfer roller 8 for transferring toner images from the surfaces of the photosensitive drums 1 onto a transfer material S. Note column 3, paragraphs [0044], [0045], and [0046].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Montfort et al. with that of Matsuguma so that a color copy can be obtained.

Claims 62, 63, 69, 70, 73, 74, 86-88, 127, and 138 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montfort et al. in view of Nakamura et al. (Japan, 2002-268490).

Montfort et al. also discloses an AC voltage applied to drive the piezoelectric element 102. Note column 5, lines 52-61.

Montfort et al., as discussed above, differs from the instant invention by not disclosing a toner having sphericity of 0.96 to 1.00 and the toner is produced by polymerization method.

Nakamura et al. discloses toner of a spherical particles used in an image forming device being made by a polymerizing method and having shape factor of 0.940 to 0.985. Note abstract.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Montfort et al. with that of Nakamura et al. so that picture of high quality can be obtained because of the use of a toner having small particle size as disclosed by Nakamura et al.

Claims 53 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuguma (2003/0063928) in view of Montfort et al.

Matsuguma discloses a color image forming apparatus with a plurality of process cartridges 7y, 7m, 7c, and 7k. Each process cartridge has a photosensitive drum 1, primary charger 3, developing means 5 and a cleaning means 6. The cleaning means 6 is in the form of a blade (note Fig. 1). Each process cartridge has a corresponding transfer roller 8 for transferring toner images from the surfaces of the photosensitive drums 1 onto a transfer material S. Note column 3, paragraphs [0044], [0045], and [0046].

Matsuguma differs from the instant invention by not disclosing a vibrating member and a vibrating unit that vibrates the vibratable member so that the end of the blade member vibrates to clean the toner on the image carrier.

Montfort et al. discloses a cleaning blade 91 with a blade attached to the tip of waveguide 84 (instant invention's vibratable member). The waveguide 84 is attached to the piezoelectric transducer 102 (instant invention's vibrating unit). As shown in Fig. 6, the end of the blade that contacts an image carrier 10 does not curl toward the image carrier 10. The angle between the blade and the image carrier makes an acute angle with a tangent to the surface of the image carrier 10 in a direction of rotation of the image carrier 10 (note Fig. 6). The acute angel is shown to be less than 90 degrees. Note column 4, lines 56-65.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Matsuguma with that of Montfort et al. so that toner cannot escape from the cleaning blade of Matsuguma.

Claims 88 and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuguma (2003/0063928) in view of Montfort et al. and Nakamura et al. (Japan, 2002-268490).

Matsuguma discloses a color image forming apparatus with a plurality of process cartridges 7y, 7m, 7c, and 7k. Each process cartridge has a photosensitive drum 1, primary charger 3, developing means 5 and a cleaning means 6. The cleaning means 6 is in the form of a blade (note Fig. 1). Each process cartridge has a corresponding transfer roller 8 for transferring toner images from the surfaces of the photosensitive drums 1 onto a transfer material S. Note column 3, paragraphs [0044], [0045], and [0046].

Matsuguma differs from the instant invention by not disclosing a vibrating member and a vibrating unit that vibrates the vibratable member so that the end of the blade member vibrates to clean the toner on the image carrier; and the toner sphericity is 0.96 to 1.00.

Montfort et al. discloses a cleaning blade 91 with a blade attached to the tip of waveguide 84 (instant invention's vibratable member). The waveguide 84 is attached to the piezoelectric transducer 102 (instant invention's vibrating unit). As shown in Fig. 6, the end of the blade that contacts an image carrier 10 does not curl toward the image carrier 10. The angle between the blade and the image carrier makes an acute angle with a tangent to the surface of the image carrier 10 in a direction of rotation of the image carrier 10 (note Fig. 6). The acute angel is shown to be less than 90 degrees. Note column 4, lines 56-65.

Nakamura et al. discloses toner of a spherical particles used in an image forming device being made by a polymerizing method and having shape factor of 0.940 to 0.985. Note abstract.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Matsuguma with that of Montfort et al. so that toner cannot escape from the cleaning blade of Matsuguma and with that of Nakamura et al. so that picture of high quality can be obtained because of the use of a toner having small particle size as disclosed by Nakamura et al.

***Allowable Subject Matter***

Claims 5, 9-11, 13-17, 64-68, 71, 72, and 75-85 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 116-126, 128-137, 139, and 140 are allowed over the prior art of record.

***Response to Arguments***

Applicant's arguments with respect to claims 1-8, 12, 53, 56, 59, 62, 63, 69, 73, 74, 86, 88, and 89 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan S. Lee whose telephone number is 571-272-2137. The examiner can normally be reached on Mon. - Fri., 10:30-8:00, Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Art Grimley can be reached on 571-272-2136 or 571-272-2800 (Ext. 52). The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Susan S. Lee  
Primary Examiner  
Art Unit 2852

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